User Manual
soft air® wds

Item. No. 110 400-wds

Pressure ulcer prevention and treatment-system

Assembly and Operation instructions

CE

pressure relief products

Health. Safety. Independence.

Index

	Foreword	Page 3
1	Safety Instructions	Page 4
2	Product overview soft air® wds	Page 4
3	Introduction	Page 5
4	Explanation of indications and functions	Page 5
5	System installation · setting up soft air® wds	Page 6
6	To set soft air® wds	Page 7
7	wds-function	Page 8
8	CPR-function	Page 9
9	Troubleshooting	Page 9
10	Cleaning instructions · Service	Page 10
11	Indications · Contra indications	Page 11
12	Technical data	Page 11

Foreword

Dear client!

You are now holding the user manual of the **soft air® wds** therapeutic support system of **ADL® GmbH**.

The **soft air® wds** system is a system for Pressure Ulcers prevention and treatment produced by **ADL® GmbH**, Germany.

There is a choice of using the system in the static position or alternating pressure. The **soft air® wds** large cell system has been developed for pressure ulcer prevention and treatment up to High Risk (Stage 3; EPUAP).

With the writing of this user manual the product management of the **ADL® GmbH** has set itself the goal, to create a good and understandable aid and guidance for the employment of the system. If nevertheless questions remain, please ask your provider for direction and assistance

Your

ADL® GmbH

1 Safety instructions

The system may not be used in presence of open flames, heaters a.o's. Protect the equipment against humidity. Operate it only in dry areas. No combustible gases or liquids may enter into the system.

EXPLOSION DANGER!

Warning! Note! The compressor is under power, as soon as the power supply plug is put in. Before opening the housing of the compressor please unplug the power plug. Repairs must be performed only by qualified technical personnel.
The compressor may only be used for its purpose. In case of damage to the compressor the power supply plug must be unplugged immediately.
Damaged power supply cord should be replaced immediately. Only room temperatures of 0 - 35° C provide assurance to good compressor operation.

2 Product overview soft air® wds

Quantity	Description	Article-No.
1	Base with 48 cell fixations	110 504-FO
16	Cells, individually removable	110 510-FO
1	Elastic, breathable, washable polyurethane cover	110 500-FO
1	Power unit	110 410-WDS-FO
1	Service manual	999 190
1	User manual	112 001-FO-GB

3 Introduction

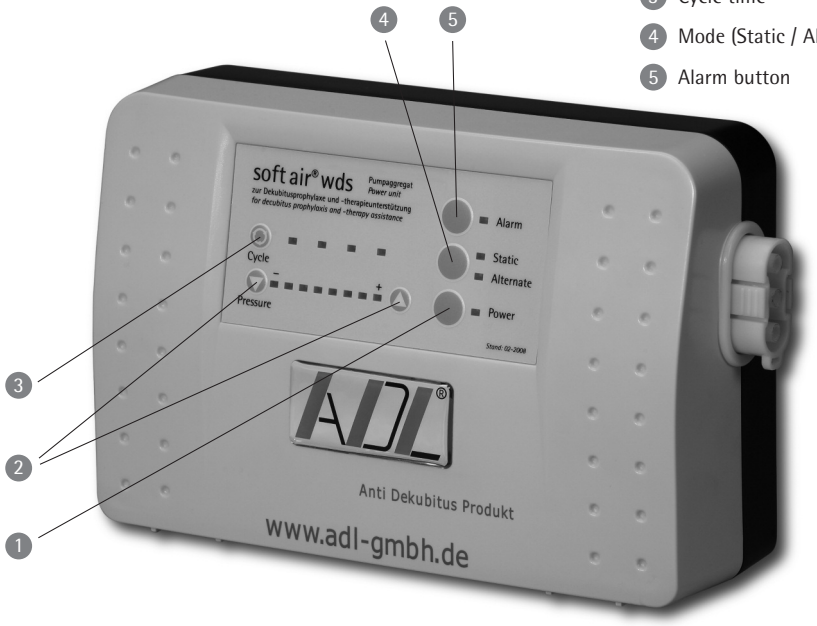
soft air® wds is a cover mattress system, meaning there should be at an additional mattress on the bed with a thickness of at least 5 cm.
With the blue button situated in the middle of the front panel you can select between static pressure or alternating pressure.

This system is suitable for patients with a body weight of 40 to 130 kg.
Please note that these weight indications are applicable for patients in a lying position. Other positions will result in another distribution of weight.

The **soft air® wds** system is a dynamic three chamber pressure relief system (ABC-System) with a cycle time which can be set between 5 to 20 minutes.

4 Explanation of indications and functions

1. On / off switch
2. Pressure setting
   - ▲ higher
   - ▼ lower
3. Cycle time
4. Mode (Static / Alternating)
5. Alarm button

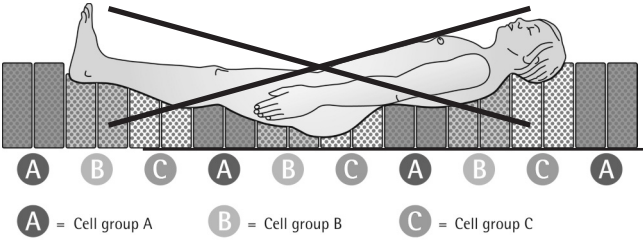


5 System installation · setting up soft air® wds

1. Put the **soft air wds** on the existing mattress and fix fixation straps to the bed (to the "up and down" moving parts of the bed).
   When not correctly attached to the bed this may lead to bed- and mattress damages.
2. Place the mattress in such a way that the tubing's are located at the foot end of the bed.
3. Before hanging the power unit at the foot end of the bed you have to mount the brackets at the back of the power unit. Slide the brackets from below up in the fixation slot.
   The power unit can also simply be placed underneath the bed.
   Please note that the power unit should not be covered in any way, as thermal damage can occur!
4. Connect the tubes to the power unit by connecting the tube connectors.
   Check with a short pull at the tube if the connector is rightly adjusted.
5. Check if the tubes are not bent or clamped between other parts.
6. Put the power supply plug in.
7. Switch on the power unit. (1)
8. The alarm light (5) is blinking and the system will start to be filled with air.
   Depending if it is switched on, an acoustic signal sounds. This can be switched off and on with the alarm button (5).
9. When switching from alternating pressure to static pressure (4) and vice versa, the mattress pressure should be newly adjusted (2).
   Normally pressure in static mode has to be lower than in alternating pressure mode.

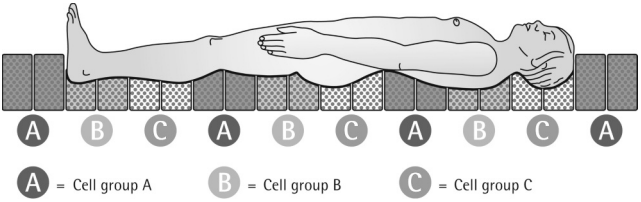
6 Inbetriebnahme soft air® wds

1. Hang the power unit at the foot end of the bed or put it under the bed.
   Please note that the power unit should not be covered in any way, as thermal damage can occur!
2. Connect the tubes to the power unit by connecting the tube connectors.
   Check with a short pull at the tube if the connector is rightly adjusted.
   Please check rubber O-rings on regular intervals!
3. Check if the tubes are not bent or clamped between other parts.
4. Put the power supply plug in.
   Switch on the power unit with on / off switch 1.
5. The alarm light 5 is blinking and the system will start to be filled with air.
   The alarm light is put out of circuit when inflation of the mattress is completed.
   Depending on if it is switched on, an acoustic signal sounds. This can be switched off and on with the alarm button 5.
   In 40-45 minutes the filling cycle for soft air® wds will be completed.
   The alarm light should be put out of circuit when the patient is laying on the mattress. Below a beforehand set pressure level, the alarm light is blinking again.
6. The most effective pressure level can be set with the pressure setting button.
   The scale is divided into 8 parts. After switching on the power unit, the pressure is set in the middle part of the scale, around 40 mbar. Pressure can be lowered by repeated pressing on the button down to around 10 mbar. By repeated pressing on the right button a maximum pressure of 80 mbar can be set.
   It is imperative to check the pre-adjustment with a "hand check". Try to move your hand under the knee-joint, the lumbar and neck lordosis in order to check if supporting material is present. When the patient sinks to far in the mattress the so called Hammock-effect occurs. This should be prevented at all times.
7. When pressure is too high there will be a lack of supporting material underneath the lordosis area's of the body. The situation can be improved by deflating the mattress by (repeatedly) pressing the left button. When pressure is too low (hammock effect), (repeatedly) press the right button.
   Each time when changing pressure level you will have to wait minimum 5 to maximum 20 minutes before checking the contact area again.



„Hammock effect“
(is to avoid)

High extended pressure in the sacral area



Optimum surface
(Supporting material under the knee-point and lordosis of neck and lumbar)

7 wds-function

In case of a contra indication for alternating pressure according to the indications overview, the system can be switched from alternating pressure to static pressure with the wds switch at the power unit.
Adjustment to maximum comfort in this mode can be achieved the same way as before.

As in static mode all cells are active, it is necessary to reduce the set pressure with about 10 – 20 mbar (1 – 2 steps on the scale).

To switch over to static function, press button 4 .
The light will change from blue to green (Static).

To switch over to alternating pressure press button 4 again. The light will change from green to blue (Alternate).

Don't forget to increase the pressure when switching over to alternating pressure.

8 CPR-function (Cardio Pulmonary Resuscitation)

The CPR strap is located at the top right site of the mattress indicated with a red tag.
In an emergency situation the mattress is quickly deflated by pulling the CPR tag. Within 30 – 60 seconds the patient will sink to the stable part of the mattress.

9 Troubleshooting

Problem	Cause	Solution
Mattress does not inflate or inflates insufficiently.	Connectors are not accurately locked. Tubes are twisted or kinked. Defect cell.	Check connection and position of the tubes. Exchange possible defect cell.
The unit does not operate (blue light at power switch is not illuminated).	No power available. Plug defect, power cord defect, safety fuse defect.	Check plug and partition socket. Check the safety fuse at the location where the power cord enters the unit.
Red alarm light is blinking and acoustic signals sounds.	Connectors not accurately locked. Air cell defect. Tubing defect.	Check connectors, cells and tubing. Check CPR valve. Exchange possible defect cell.
The patient sinks too deep into the mattress.	Air cell defect. Tubing defect. Pressure not correctly set.	Check cells and tubing connections. Check pressure setting. Exchange possible defect cell.

10 Cleaning instructions · Service

- During use the mattress and tubes should be cleaned weekly using a damp soft cloth and mild detergent or non-phenol germicidal solution.

Never use any detergents containing aldehyde!

- After changing to another patient the mattress should be disinfected by an accredited company approved by the **Robert-Koch-Institute**. Please ensure conformity to the European guideline for medical devices , directions for preparation of medicine products and directions for hospital hygiene and prevention of infections from the Robert-Koch-Institute or other guidelines they rule.
- The PU cover can be washed to a maximum temperature of **95 °C** and be re-used after a thermal process (e.g. Ottalin - Peracet - process).
  Also a steam sterilisation process can be applied.
  The power unit of the **soft air® wds** system, should be cleaned with a damp cloth and soap detergent or a mild non-aldehyde cleaning detergent.
- Disinfection with cleaning on location is also possible, when instructions for use and process time are properly kept.
- Die **ADL® GmbH** prescribes safety-related **revisals** of all electric powered parts after at least **2 years**.
  The rules for accident prevention BGV A2 will remain unaffected.
  The **revisals** may only be conducted by especially trained personal.

Disinfectant recommendations:
BACILLOCID RASANT (BODE), BACILLOL AF (BODE), BACILLOCID SPEZIAL (BODE), KOHRSOLIN FF (BODE), KOHRSOLIN (BODE), MICROBAC FORTE (BODE), DISMOZON PUR (BODE), INCIDIN FOAM (ECOLAB), INDUR DES (ECOLAB).

Check with your supplier the disinfectant does not damage plastic surfaces (PUR, PA, ABS, PVC).
Prevent contact on electrical components with damp or moisture.
Cleaning cloths should be damp, not wet.
Carefully check no **moisture** remains in the system.
Execute a **functions control** procedure before using the system again.
Check your cleaning process on **effectiveness** on a regular basis.

11 Indications · Contra indications

	Indications	Contra indications
Alternating pressure	Pressure ulcers up to High Risk (Stage 3; EPUAP). Large surface wounds. Plastic surgery.	Spastics, situation according to Apoplex. Pain patients, patients with osteoporosis, neurological patients.
Static pressure	Pressure ulcers up to High Risk (Stage 3; EPUAP). Large surface wounds. Plastic surgery. Spastics, situation according to Apoplex, pain patients, e.g. patients with osteoporosis. Neurological patients.	--

12 Technical data

	Mattress	soft air® wds-power unit
Material	PU-nylon	ABS
Dimensions (cm)	200 x 86,5 x 13,5	23 x 15 x 8,5
Weight (kg)	5,9	1,5
Warranty*	2 years	2 years
Electr. connections	-	230 V/7 W
Protection class	-	Protection class II
Fuse	-	230 V/F500 mA (slow)
Cover	Polyurethane, washable to 95 °C, can be used in dryer (to 50 °C)	
Application	Pressure Ulcer prevention and treatment up to High Risk (Stage 3; EPUAP), patient weights between 40 -130 kg.	

* Warranty only valid in case of production or material failures.

In case of technical problems please contact your appointed dealer or direct ADL® GmbH.

(Dealer stamp)

ADL® Medical International
Edisonstraat 6
5051 DS Goirle
The Netherlands
Phone: + 31 (0)13 5772 088
Fax: + 31 (0)13 5772 648
E-Mail: info@adlmedical.nl
Internet: www.adlmedical.nl

ADL® GmbH
Lise-Meitner-Straße 3
48161 Muenster
Germany
Telephone: + 49 (0)25 34 6 22 4-0
Telefax: + 49 (0)25 34 6 42 70

ADL® GmbH
Produktionsstaette
und Servicecenter Erfurt
Thoereyer Straße 1
99334 Ichtershausen
Germany
Telephone: + 49 (0)3 62 02 75 19-0
Telefax: + 49 (0)3 62 02 75 19-12

E-Mail: info@adl-gmbh.de
Internet: www.adl-gmbh.de

ISO 9001:2000 DEKRA Certification DEKRA zertifiziert
Qualitätsmanagement
Wir sind zertifiziert
Regelmäßige freiwillige Überwachung nach ISO 9001:2000

EN ISO 13485:2003 DEKRA Certification DEKRA zertifiziert
Qualitätsmanagement
Wir sind zertifiziert
Regelmäßige freiwillige Überwachung nach EN ISO 13485:2003 + AC:2007

Copyright by © ADL GmbH · Muenster

Date 02/2009